

CHAPTER
6

Chapter Test A

For use after Chapter 6

Simplify the ratio.

1. $\frac{34 \text{ cm}}{4 \text{ cm}}$

2. $\frac{10 \text{ ft}}{30 \text{ in.}}$

3. $\frac{4 \text{ lb}}{8 \text{ oz}}$

4. $\frac{2 \text{ L}}{50 \text{ mL}}$

Solve the proportion.

5. $\frac{3}{8} = \frac{9}{x}$

6. $\frac{x}{30} = \frac{7}{15}$

7. $\frac{5}{10} = \frac{x+1}{4}$

8. $\frac{2}{3x-10} = \frac{8}{20}$

Find the geometric mean of the two numbers.

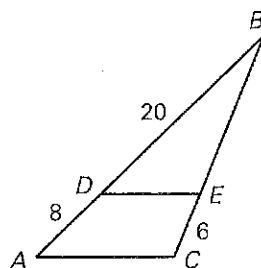
9. 6 and 24

10. 16 and 25

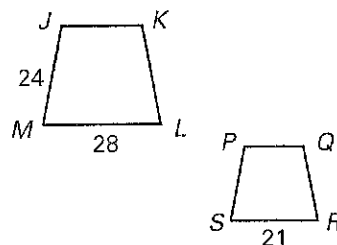
11. 12 and 30

Use the diagram and the given information to find the unknown length.

12. Given $\frac{BD}{DA} = \frac{BE}{EC}$, find BE.

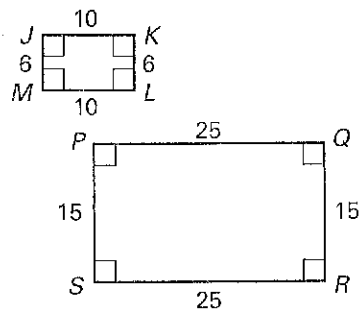


13. Given $\frac{JM}{PS} = \frac{ML}{SR}$, find PS.

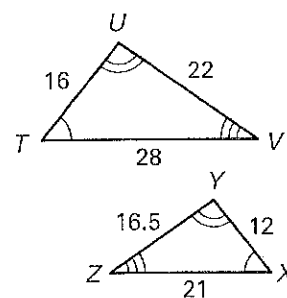


Determine whether the polygons are similar. If they are, write a similarity statement and find the scale factor.

14.

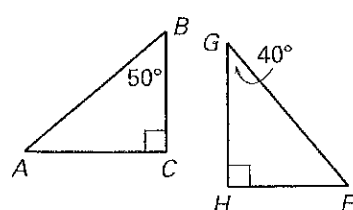


15.

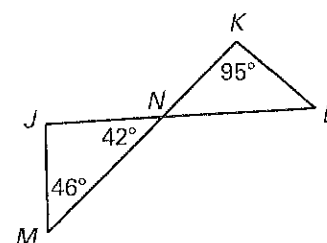


In Exercises 16–19, determine whether the triangles are similar. If they are, write a similarity statement.

16.



17.



Answers

1. _____

2. _____

3. _____

4. _____

5. _____

6. _____

7. _____

8. _____

9. _____

10. _____

11. _____

12. _____

13. _____

14. _____

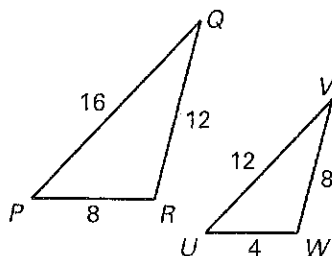
15. _____

16. _____

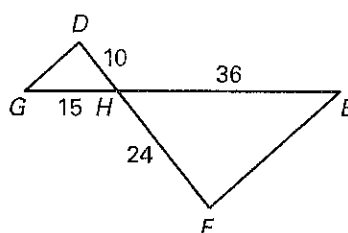
17. _____

**CHAPTER
6**
Chapter Test A *continued*
For use after Chapter 6

18.



19.

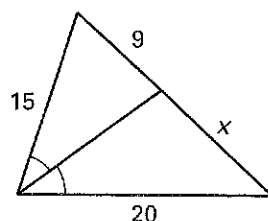

Answers

18. _____

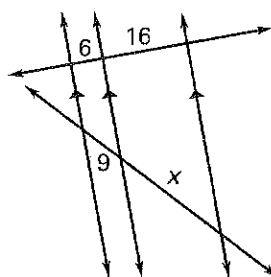
19. _____

Find the value of x .

20.



21.



20. _____

21. _____

22. _____

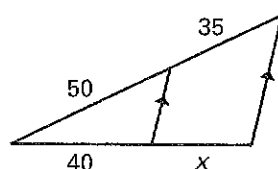
23. _____

24. See left.

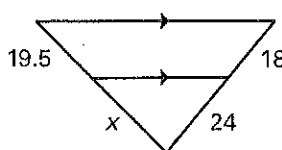
25. See left.

26. _____

22.



23.

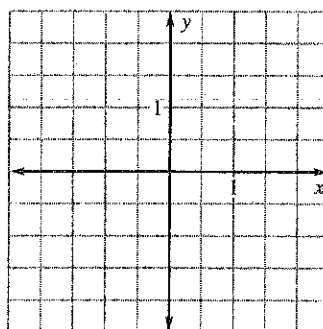
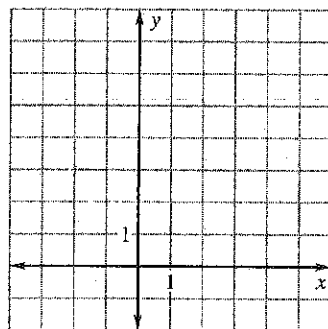

Draw a dilation of the polygon with the given vertices using the given scale factor k .

24. $A(-1, 1), B(2, 1), C(1, 2);$

$$k = 3$$

25. $A(-4, 4), B(-4, 8), C(0, 4);$

$$k = \frac{1}{4}$$



26. The perimeter of a rectangular corn field is 440 meters. The ratio of its length to its width is 7 : 4. What is the length and width of the field?

CHAPTER
6
Chapter Test C

For use after Chapter 6

Simplify the ratio.

1. $\frac{3 \text{ gallons}}{27 \text{ quarts}}$

2. $\frac{500 \text{ mm}}{2.5 \text{ m}}$

3. $\frac{150 \text{ lb}}{100 \text{ oz}}$

Solve the proportion.

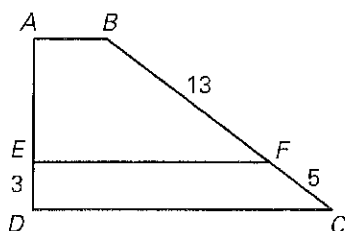
4. $\frac{6}{13} = \frac{3x}{91}$

5. $\frac{x+6}{x} = \frac{5}{4}$

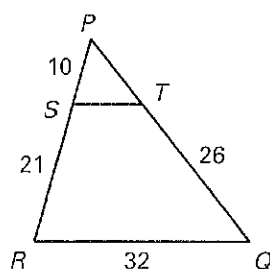
6. $\frac{3}{10} = \frac{5x+1}{18x-6}$

Use the diagram and the given information to find the unknown length.

7. Given $\frac{BC}{CF} = \frac{AD}{DE}$, find AE .



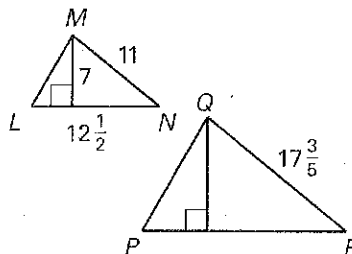
8. Given $\frac{PR}{PS} = \frac{RQ}{ST}$, find ST .



9. The lengths of the legs of right triangle FGH are 12 meters and 16 meters. The shortest side of $\triangle JKL$ is 2.4 meters and $\triangle JKL \sim \triangle FGH$. How long is the hypotenuse of $\triangle JKL$?

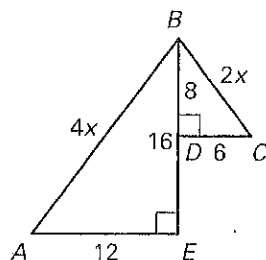
In the diagram, $\triangle LMN \sim \triangle PQR$.

10. Find the scale factor of $\triangle PQR$ to $\triangle LMN$.
11. Find the length of the altitude shown in $\triangle PQR$.
12. Estimate the lengths of LM and PQ . Round your answers to the nearest tenth.

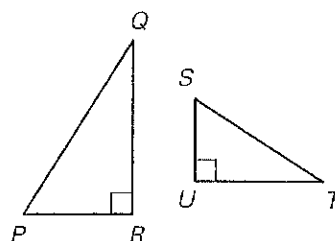


In Exercises 13–16, determine whether the triangles are similar. If they are, write a similarity statement.

13.



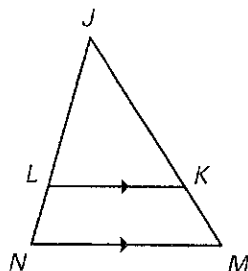
14.


Answers

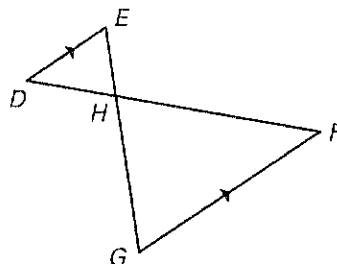
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____

**CHAPTER
6**
Chapter Test C *continued*
For use after Chapter 6

15.



16.

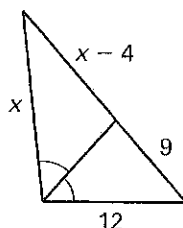

Answers

15. _____

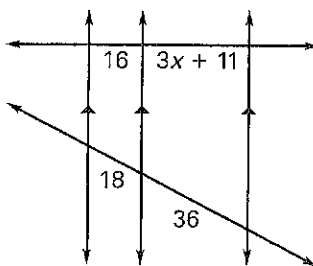
16. _____

Find the value of x .

17.



18.



17. _____

18. _____

19. _____

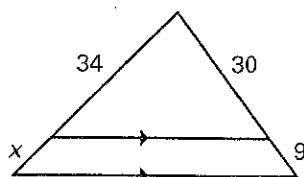
20. _____

21. See left.

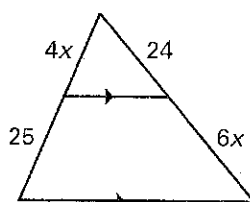
22. See left.

23. _____

19.

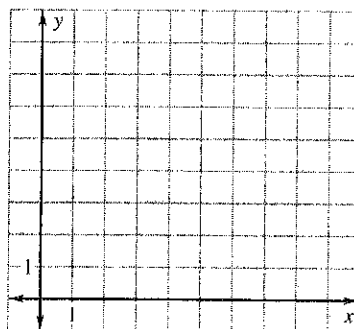
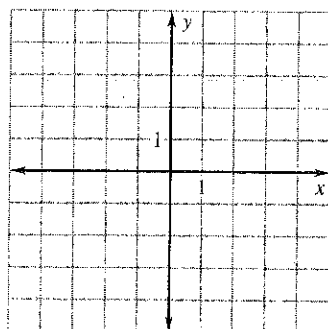


20.


Draw a dilation of the polygon with the given vertices using the given scale factor k .

21. $A(-12, -6), B(-6, -3), C(-3, 6), D(-12, 6); k = \frac{1}{6}$

22. $A(0, 0), B(0, 2), C(2, 2), D(4, 0); k = 2.25$



23. You take 450 U.S. dollars to the bank to exchange for European euros. The exchange rate on that day is about 0.82 euros per U.S. dollar. How many European euros did you get for the 450 U.S. dollars?